International Journal of Sciences: Basic and Applied Research (IJSBAR)

ISSN 2307-4531
(Print & Online)

http://gssrr.org/index.php?journal=JournalOfBasicAndApplied

The Practice of Exclusive Breastfeeding in Namibia

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Abstract

Breastfeeding is an important determinant of a child's growth and development. Modernization as well as the aggressive promotion and marketing campaigns of infant formula and other baby food have influenced the traditions of breastfeeding and this resulted in the increased use of bottlefeeding. The main aim of this article is to assess factors associated with exclusive breastfeeding among infants aged 0-6 months using 2013 Namibia Demographic and Health S. Comparative statistics were calculated using the Chi square ($\chi 2$) test. Multiple logistic regression analysis was used to examine factors associated with exclusive breastfeeding using a backward Wald selection method. The prevalence of breastfeeding practice among children aged 0-6 months at the time of survey was 35.1% and that of exclusive breastfeeding was only 19%. The median duration of exclusive breastfeeding was three months. Analysis of exclusive breastfeeding by age group decreases with increasing age of a child. Among infants who were aged below 1 month more than 35 percent were exclusively breastfed and the proportion is lower among those aged over one month. Overall, the proportion of children exclusively breastfed is higher in rural areas (67.4 percent) than in urban areas (32.6 percent). Age of mother, her employment status, education level and birth order were some of the factors highly associated with exclusive breastfeeding in Namibia. The results recommend that there is need to implement an infant feeding policy taking into account all socio-economic and demographic as well as behavioral factors that influence or hinder practice of exclusive breast feeding. There is also need to consider extending maternal leave to promote exclusive breastfeeding among working mothers.

Keywords: exclusive breastfeeding; 0-6 months; infants; Namibia.

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1. Introduction

A number of research on exclusive breastfeeding [1,2] quoted that the World Health Organization (WHO) advocated that inappropriate feeding of infants and young children could be responsible for cases of child morbidity worldwide. The WHO and UNICEF have made the promotion of breastfeeding a primary goal through the development of international standards and policies. The global strategy on infant and young child feeding, endorsed by the World Health Assembly in 2002 (resolution WHA55.25), advocates for comprehensive national policies that aim to foster environments that protect, promote, and support appropriate infant and young child feeding practices, including exclusive breastfeeding. Despite such initiatives taken by the international community, substantial differentials in the propensity of breast feeding are evident both within and between societies. [3] however reported that the rates of exclusive breastfeeding have improved over the recent past, with the global rate at 37%. Nevertheless, [3] further reported that in all regions the percentage of infants under six months receiving the benefits of exclusive breastfeeding is still less than 50% and in the developing world, less than 40 % of infants under 6 months old receive the benefits of exclusive breastfeeding. While the benefits of breastfeeding infants are innumerable, only 39% of all infants under 6 months in the developing world are exclusively breastfed [4]. The rate is particularly low in Africa, where less than one third of infants under 6 months old are exclusively breastfed.

According to UNICEF nutrition indicators, the highest rates of exclusive breastfeeding are currently found in Eastern/Southern Africa (49%) and South Asia (45%), and the lowest in West/Central Africa (24%). There has been a major increase in exclusive breastfeeding in 19 African countries including Rwanda (88%), Tanzania (50%) [5] and Malawi (57%) among others. Kenya, in particular, has seen a remarkable growth in exclusive breastfeeding for children under six months old. In 2003 it was reported that only 13% of mothers were breastfeeding exclusively in Kenya however this rate increased to 61% in 2015 [6]. This achievement came as a result of massive drive to promote breastfeeding in Kenya. Two of the programmes, set up by the Kenyan government, are the Baby Friendly Hospital Initiative and the Baby Friendly Community Initiative. One promotes breastfeeding in hospitals at the time of delivery and the other breastfeeding in the community. Both have been proposed in the country's most recent maternal infant and young child nutrition strategies, stretching to 2017. Although the initiatives have not yet been scaled up fully, they have created mass awareness of breastfeeding. Government plans to increase exclusive breastfeeding to 80% by 2017.

Exclusive breastfeeding is defined as feeding an infant with only breast milk and no additional food, water or other liquids during the first six months of life. Research [7,8] argued that breastfeeding is an import determinant of child's grow and development and infants who are exclusively breastfed have less chance of becoming ill or dying from diarrhea and other infections. The further argued that breastfeeding is considered to be the most unique source of nutrition that plays an important role in the growth, development and survival of the infants. [9] found that there are high incidences of underweight among non-exclusively breastfed infants and also reported that non-exclusive breastfeeding is highly associated with neonatal infections deaths, diarrheal deaths and acute respiratory deaths among children under five especially in developing countries. The benefits of exclusive breast feeding are well established especially in poor environments where early introduction of other milk is of particular concern because of the risk of pathogens contamination and dilution of milk leading

to increased risks of morbidity and under nutrition.

Three of the most important factors associated with differentials in breastfeeding are place of residence (urban/rural), maternal education and income status [10]. He argued that urban residence and modernization have most consistently been attributed to the decline of breastfeeding. He further speculated that this decline in urban areas is partially attributed to media, where bottle feeding is portrayed as modern and convenient. In addition [10] argued that there are fewer breastfeeding role models in the urban setting where the extended family structure may not exist and where working mothers may believe breastfeeding to be difficult while working.

References [11,5] reported that different aspects of breastfeeding are influenced by socio-demographic characteristics such as age of the mother, her employment status, parity and so on. However, the effects of all these factors on the pattern of breastfeeding are not universally the same. Some varies on the ground of different socio-economic and demographic set up. Even in the same set, the factors might have varying impact on breastfeeding practices of the individual as well as of the society.

Furthermore, [1] reported that mothers find it difficult to meet personal goals and to adhere to the expert recommendations for continued and exclusive breastfeeding despite increased rate of initiation. Some of the major factors that affect exclusivity of breastfeeding include mother's perceptions that she is producing inadequate milk; societal barriers such as employment and length of maternity leave; inadequate breastfeeding knowledge; lack of familial and societal support; and lack of guidance and encouragement from health care professionals. Other studies have identified factors such as inadequate knowledge of the health benefits of breastfeeding [5] inadequate antenatal counseling on breastfeeding [12] and belief that breast milk is insufficient [11,6] as influencing breastfeeding practice. A range of maternal and child health attributes such as marital status, wealth status and child age also influence the practice of exclusive breastfeeding [7].

The Ministry of Health and Social Services (MoHSS) has adopted a primary health care strategy in the delivery of health services to the Namibian population. One of the components of primary health care programmes is maternal and child care including family planning, immunisations and promotion of breastfeeding and nutrition. Various global instruments as well as national laws and policies have guided the implementation of infant feeding. These include the international code of marketing of breast milk substitutes, the baby friendly hospital imitative and the baby and mother friendly initiatives through the implementation of the ten steps to successful breastfeeding. In Namibia the Baby and Mother Friendly Initiative (BMFI) was launched in 1992. The initiative aims to promote, support and protect breastfeeding practices and is adopted from the global Baby Friendly Hospital Initiative (BFHI). The BMFI guidelines were developed and health workers were trained on breastfeeding management and promotion. Since 1996, 35 (100%) state and state-subsidised missionary hospitals were declared Baby and Mother Friendly according to the international laid down criteria of the Ten Steps to Successful Breastfeeding [13]. According to the 2006/7 NDHS only 23.9 percent of children under the age of 6 were exclusively breastfed. This proportion gradually increased to 48.5 percent in 2013. The practice of exclusive breastfeeding in Namibia at age 0-1 months was recorded at 72 percent, 52.7 percent at 2-3 months and 26.8 percent among 4-5 months old infants. Although the BFHI is in place it only promotes exclusive

breastfeeding in the health facility but does not sustain it at community level. In reality many mothers are unable to practice exclusive breastfeeding as advocated [12] and there is paucity of scientific data on reasons why exclusive breastfeeding is not practiced optimally.

While there is a large body of published material on the factors affecting breastfeeding, there are few studies documenting factors influencing exclusive breastfeeding. To improve exclusive breastfeeding, factors influencing its practice have to be identified in order to target these in programme implementation. This paper aims to assess how different socio economic and demographic characteristics influence the practice of exclusive breastfeeding among infants aged 0 to 6 months.

2. Materials and Methods

The data used in this paper has been extracted from the 2013 NDHS. The survey covered 9 176 women of reproductive age and in this paper breastfeeding information of 6566 children aged 0-6 months were considered for analysis, along with socio demographic information of their mother. Descriptive statistics were used to characterize respondents using different variables of interest. First, bivariate analysis was undertaken for each explanatory variable with the outcome variable. Association between exclusive breastfeeding and independent variables was investigated using Chi-squared test. Variables which are significantly associated with the outcome variable at p<=0.05 were included in the multiple logistic regression analysis. Multiple logistic regression was used to determine the factors affecting the exclusive breastfeeding. The dependent variable in the logistic regression model – "exclusive breastfeeding" is defined as baby takes only breast milk from birth to age 6 months and categorized as "1=yes" if exclusively breastfed and a "0=no" otherwise. The results are presented using odds ratio with 95% confidence interval. Statistical significance was declared if p-value was less or equal to 0.05.

3. Results

3.1 Background characteristics of mother

The analysis included information from 3 397 (51.7%) mothers who are aged less than 30 years and from 3 169 mothers who are aged 30 years and above. Only half of the mothers were married, 43% were never married and 6 percent were divorced, separated or widowed. Two-thirds of the mothers had attained secondary education, 23.4% had primary education and only 9 percent of the mothers had no education. Less than half (42.5%) of mothers were unemployed and of those employed, majority were nonagricultural employees.

3.2 Prevalence of exclusive breastfeeding

The results indicated that the proportion of children aged 0-6 months who were being breastfed at the time of survey was 35.1% and only 19% of the children in the same age range were reported to have been exclusively breastfed. The median duration of exclusive breastfeeding was three months. Analysis of exclusive breastfeeding by age group decreases with increasing age of a child. Among infants who were aged below 1 month more than 35 percent were exclusively breastfed, the proportion is lower among those aged over one

month. Overall, the proportion of children exclusively breastfed is higher in rural areas (67.4 percent) than in urban areas (32.6 percent).

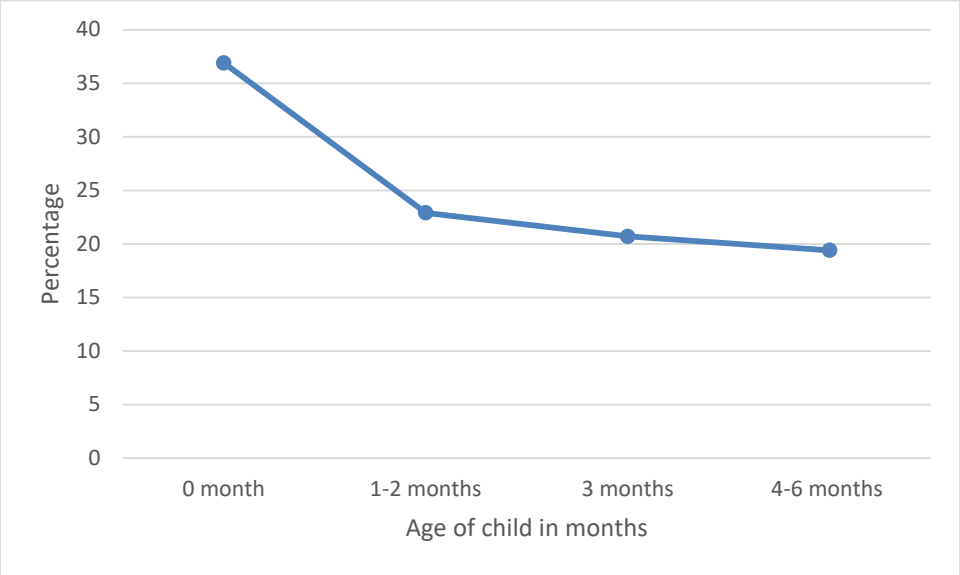

Figure 1: Exclusive breastfeeding by age of infant

3.3Factors associated with exclusive breastfeeding

A chi-square test was utilized to assess the relationship between exclusive breastfeeding and selected maternal factors which included attendance of ANC, prenatal visits, birth order and total number of children ever born. Other factors assessed included age of the mother, marital status of mother, her highest education level, employment status, wealth quintile and region.

Table 1 shows the relationship between exclusive breastfeeding and selected socio-demographic factors using a chi-square test. Age of mother, her work status, parity, wealth status and her marital status were found to be significantly associated with exclusive breastfeeding. Other factors such as whether a mother attended ANC or prenatal care as well as birth order also had significant influence on exclusive breastfeeding.

The results indicated that exclusive breastfeeding is highly practiced by mothers who are unemployed (74%). Women who are in the poor wealth status (56.1%) also practice exclusive breastfeeding more than women who are in the middle or rich wealth status. It is also important to note that the majority of mothers who practice exclusive breastfeeding had attended ANC (93.2%).

There is also a significant association between exclusive breastfeeding and region of residence (Chi-squared=85.8, 12df, p=0.000). Of all the children who were exclusively breastfed a high proportion live in Ohangwena region (12 percent) followed by those living in Kunene region with 11.7 percent and Kavango with 11.5 percent. The region with the lowest proportion of children exclusive breastfeeding is Erongo with 3.8 percent.

Table 1: Socio-demographic factors influencing exclusive breastfeeding

Variable	EB (n=457) %	Statistical test
Age of mother		
15-19	10.5	
20-24	23.0	
25-29	24.1	Chi-squared=48.9, 6df, p=0.000
30-34	21.7	
35-39	14.2	
40-44	5.3	
45-49	1.3	
Employment status of mother		
Unemployed	73.6	Chi-squared=99.1, 1df, p=0.000
Employed	26.4	
Birth order		
1st	29.9	Chi-squared=6.3, 2df, p=0.044
2nd	23.4	
3rd or higher	46.7	
Wealth status		
Poor	56.1	Chi-squared=93.9, 2df, p=0.000
Middle	21.9	
Rich	21.9	
Marital status		
Not in union	44.8	Chi-squared=14.5, 1df, p=0.000
In Union	55.2	Chi-squared=50.3, 1df, p=0.000
Education level		
Primary	41.6	
Secondary+	58.4	
Attend ANC		
No	6.8	Chi-squared=3.8, 1df, p=0.052
Yes	93.2	
Attend prenatal care		
No	47.8	Chi-squared=590.3, 1df, p=0.000
Yes	52.2	

3.4 Independent predictors of exclusive breastfeeding

Logistic regression was performed to identify the independent determinants of exclusive breastfeeding. All predictor variables analyzed through bivariate analysis were used as predictors in the logistic model. Results of logistic regression are shown in Table 2. The results showed that exclusive breastfeeding practice among children aged 0-6 months decreases with age of the child (OR=0.76). Age of mother, her employment status and birth order are highly associated with exclusive breastfeeding. The results also indicate that exclusive breastfeeding decreases with age of mother. There is evidence that teenage mothers are more likely to practice exclusive breastfeeding than older women. The odds of practicing exclusive breastfeeding among employed

mothers is 0.55 times than for those who are unemployed. This is an indication that employed mothers find it difficult to practice exclusive breastfeeding than those who are unemployed. Another factor that was shown to have a significant association with exclusive breastfeeding is the birth order of child. The results indicated that first born are more likely to be exclusively breastfed that children of subsequent order. Mothers who live in rural areas and those who are in marital union are more likely to practice exclusive breastfeeding than those in urban and not in union, respectively. Education level of mother also influence the practice of exclusive breastfeeding. The odds ratio of mothers with secondary or higher education is less than 1.00 indicating that they are less likely to practice exclusive breastfeeding than those with at most primary education.

Table 2: Multivariate logistic regression analysis showing factors associated with exclusive breastfeeding practice of mothers with infants aged 0-6 months, Namibia DHS 2013

	Exp (B)	95% C.I.for Exp(B)	
Age of mother			
15-19			
20-24	0.52**	0.36	0.73
25-29	0.46**	0.32	0.68
30-34	0.44**	0.29	0.66
35-39	0.46**	0.30	0.71
40-44	0.41**	0.25	0.67
45-49	0.22**	0.10	0.47
Place of residence			
Urban			
Rural	1.33*	1.10	1.61
Employment status of mother			
not employed			
employed	0.55**	0.46	0.66
Marital status of mother			
not in union			
in union	1.20*	1.02	1.42
Wealth status of mother			
poor			
middle	0.85	0.69	1.05
rich	0.71*	0.56	0.90
Current age of child	0.76**	0.71	0.81
Birth Order			
1st			
2nd	0.11**	0.08	0.15
3rd or higher	0.02**	0.01	0.03
Education level of mother			
Primary or lower			
Secondary or higher	0.85*	0.71	1.01

*significance level * $p<0.05$ ** $p<0.01$*

4. Discussion

The single most effective intervention for preventing child morbidity and mortality is practicing exclusive breastfeeding during the first six months of life [8]. In this study the prevalence of breastfeeding practice among children aged 0-6 months at the time of survey was 35.1% and that of exclusive breastfeeding was only 19%. This low proportion of exclusive breastfeeding is very unsatisfactory considering the undisputable benefits of the exclusive breastfeeding of infants. Similar low levels of exclusive breastfeeding were recorded in other countries [14]. He reported that although higher rates of exclusive breastfeeding have been reported in New Zealand and Norway, where 42% of the infants were exclusively breastfed for 4 months, he further indicated that even in these countries, exclusive breastfeeding declined to 7% at six months of age. In most Africa countries, exclusive breastfeeding was reported to be a challenge, for example in Zimbabwe exclusive breastfeeding has contributed to child malnourishment, stunted growth and high child mortality. According to the Multiple Indicator Cluster Survey (MICS) conducted in Zimbabwe in 2014, only one in three babies were exclusively breastfed in their first six months of life [15]. The low uptake of exclusive breastfeeding has been attributed to societal, cultural and religious beliefs of lactating mothers. A cross-sectional study conducted in four provinces in South Africa which comprised mothers and/or caregivers of babies aged ≤ 6 months found that exclusive breastfeeding rate for infants up to the age of six months was 12% [16]. However, [17] recently reported an improved level of exclusive breastfeeding exclusive breastfeeding among women in Johannesburg. This means that there is still a need for encouraging mothers to continue exclusive breastfeeding till the infants are 6 months old.

The study findings showed that age of child is positively associated with exclusive breastfeeding. Several studies [11,18] also strengthen this correlation where infant's exclusive breastfeeding and age are inversely related. The logical explanation could be linked to the only three months maternity leave which make it difficult for mothers to exclusively breastfeed their infants until age 6 months as they need to go back to work. A number of studies also found similar negative association between employment status of the mother and exclusive breastfeeding. Employed mothers may be relatively overloaded with their office activities so may have limited time with infants and hence forced to introduce supplementary feeding earlier. Wealthier mothers are more likely to be educated and also employed and the study shows that these women are less likely to practice exclusive breastfeeding. This however contradicts with findings of [19] who reported that infants from the poorest households were less likely to be exclusive breastfeeding compared to infants from middle level and wealthiest households. However, [14] reported that education as a predictor differs between developing and developed countries. He reported that educated mothers in most developed countries have returned to breastfeeding while mothers with high education level in developing countries have increasingly switched to bottle feeding or mixed feeding. This implies that higher education in developing countries is associated with the adoption of modern ideas, often leading to the abandonment of traditional practices. The findings however contradict with a number of research that found a positive association between exclusive breastfeeding and age of mother. Other studies [20, 1,10] found that older mothers practice exclusive breastfeeding more than younger ones. They argued that older mother women probably know more about the benefits of breastfeeding and have more experience in infant management. This study however found that teenage mothers are more likely to practice exclusive breastfeeding and this is also perhaps related with results of first born who are more likely to

be exclusively breastfed. Teenagers are likely to be in school and not employed and hence it is more convenient for them to exclusively breast feed as they may have enough time to spend with their infants until age 6 months. Most girls who give birth as teenagers left school to look after their babies and only return to school later (usually after a year).

Bivariate analysis showed a significant association between exclusive breastfeeding and antenatal and postnatal care. Possible justification could be the increased knowledge and altitudinal changes due to the information provided by the antenatal care clinics on infant feeding and nutritional values of breast milk. Another justification for this variation could be the increased Namibian government efforts to improve maternal and child health through a community based health extension programme. It may also be due to community involvement, increased number of health facilities, and the high use of delivering at a health care facility with 87% infants aged 0-6 months delivered at health facility. This argument supports the findings of [19] who reported that mothers who did not attend antennal care during pregnancy had lower odds for exclusive breastfeeding than those mothers who attend at least one antenatal visit.

5. Recommendations

The Government of the Republic of Namibia through the Ministry of Health and Social services has embraced the WHO recommendations and issued guidelines that recommend six months of exclusive breastfeeding. However, translating these guidelines into action would require immense planning and strong implementation programme and strategies. There is need to have clear national targets, strategies or action plans to protect, promote and support appropriate feeding practices of infants and young children. There is need for the Government of the Republic of Namibia, through the Ministry of Health and /social services to implement an infant feeding policy in the context of WHO/UNICEF Global Strategy for infant and Young Children feeding taking into account all socio-economic and demographic as well as behavioral factors that influence or hinder practice of exclusive breast feeding. Recommendations for improving exclusive breastfeeding practices should also include better support for working mothers by extending maternal leave and/or establish work-site day care centers for infants.

6. Conclusion

It is apparent that exclusive breastfeeding in Namibia is still low. Maternal factors (age, education, employment, wealth status, marital status), infant's age, birth order and place of residence significantly influence the practice of exclusive breastfeeding in Namibia. The findings of this study should be the foundation of future studies that investigate feeding patterns among infants in Namibia and eventually assist in the implementation of the WHO infant and young children feeding practices. There is need for large more detailed study following women from before birth until they stop breastfeeding their babies to full understand the constraints, hindrance and influencing factors.

7. Limitations of the study

The analysis is based on secondary data which were collected for a different purpose and this might be a

limitation for a number of information which are required but may not be collected. Recall errors may influence the results of the analysis as information are collected from mothers who may not remember all correct details.

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